

#4  
2/19/02  
**PATENTS**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicants:** Benjamin Reubinoff, et al.

**Examiner:** Unassigned

**Serial No.:** To Be Assigned

**Art Unit:** Unassigned

**Filed:** Herewith

**Docket:** 13164A

**For:** EMBRYONIC STEM CELLS

**Dated:** March 5, 2002



Assistant Commissioner for Patents  
Washington, DC 20231

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with 37 C.F.R. §§1.97 and 1.98, it is requested that the following references, which are also listed on the attached Form PTO-1449, be made of record in the above-identified case.

1. Pirty, M., et al., "Embryonic Stem Cells, Creating Transgenic Animals", Methods in Cell Biology, Academic Press, pages 279-293;
2. Shambloott, M. J., et al., (1998) "Derivation of pluripotent stem cells from cultured human primordial germ cells", Proc. Natl. Acad. Sci., 95:13726-13731;

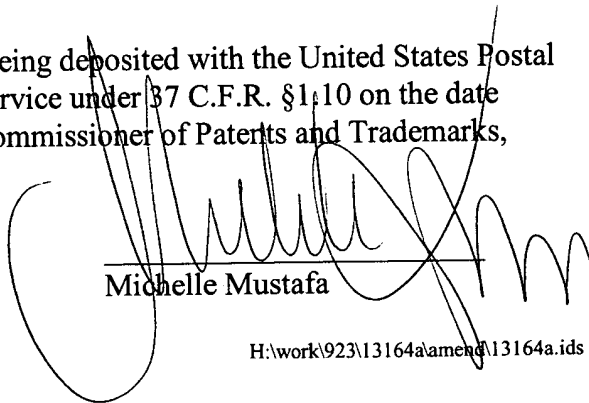
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Dated: **March 5, 2002**

  
Michelle Mustafa

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3. Svendsen, C. N., et al., (1999) "New prospects for human stem-cell therapy in the nervous system", Trends in Neurosciences, 22(8):357-364;
4. Thomson, J. A., et al., (1998) "Embryonic stem Cell Lines Derived From Human Blastocysts", Science, 282:1145-1147;
5. Evans, M. J., et al., (1981) "Establishment in culture of pluripotential cells from mouse embryos", Nature 292:154-156;
6. Martin, G. R., (1981) "Isolation of a pluripotent cell line from early mouse embryos cultured in medium conditioned by teratocarcinoma stem cells", Proc. Natl. Acad. Sci USA 78(12):7634-7638;
7. Andrews, P. W., et al. (1984) "Pluripotent Embryonal Carcinoma Clones Derived from the Human Teratocarcinoma Cell Line Tera-2", Lab. Invest. 50(2):147-162;
8. Pera, M. F., et al. (1989) "Isolation and characterization of a multipotent clone of human embryonal carcinoma-cells", Differentiation 42:10-23;
9. Thomson, J. A., et al. (1995) "Isolation of a primate embryonic stem cell line", Proc. Natl. Acad. Sci USA 92:7844-7848;
10. Thomson, J. A., et al. (1996) "Pluripotent Cell Lines Derived from Common Marmoset (*Callithrix jacchus*) Blastocysts", Bio Reprod. 55:254-259;
11. Bongso, A., et al. (1994) "Isolation and culture of inner cell mass cells from human blastocysts", Hum. Reprod. 9(11):2110-2117;
12. Andrews, P. W., et al. (1996) "Comparative analysis of cell surface antigens expressed by cell lines derived from human germ-cell tumours", Int.J.Cancer 66:806-816;
13. Cooper, S., et al. (1992) "A novel keratan sulphate proteoglycan from a human embryonal carcinoma cell line", Biochem.J. 286:959-966;
14. Pera, M. F., et al. (1988) "Analysis of cell-differentiation lineage in human teratomas using new monoclonal antibodies to cytostructural antigens of embryonal carcinoma cells", Differentiation 39:139-149;
15. Fong, C. Y., et al. (1998) "Comparison of human blastulation rates and total cell number in sequential culture media with and without co-culture", Hum. Reprod. 14(3):774-781;

16. Fong, C. Y., et al. (1997) "Ongoing normal pregnancy after transfer of zona-free blastocysts: implications for embryo transfer in the human", Hum. Reprod. 12(3):557-560;
17. Solter, D., et al. (1975) "Immunosurgery of mouse blastocyst", Proc. Natl Acad Sci USA 72(12):5099-5102;
18. Vajta, G., et al. (1998) "Open Pulled Straw (OPS) Vitrification: A New Way to Reduce Cryoinjuries of Bovine Ova and Embryos", Molecular Reproduction and Development 51:53-58;
19. Vajta, G., et al. (1998) "Sterile application of the opened pulled straw (OPS) vitrification method", Cryo-letters 19:389-392;
20. Kleinsmith, L. J., et al. (1964) "Multipotentiality of Single Embryonal Carcinoma Cells", The University of Michigan 24:1544-1551;
21. Stevens, L. C. (1983) "Testicular, ovarian, and embryo-derived teratomas", Cancer Surveys 2(1):75-91;
22. Martin, G. R. (1980) "Teratocarcinomas and Mammalian Embryogenesis", Science 209:768-776;
23. Matsui, Y., et al. (1992) "Derivation of Pluripotent Embryonic Stem Cells from Murine Primordial Germ Cells in Culture", Cell 70:841-847;
24. Thompson, S., et al. (1984) "Cloned human teratoma cells differentiate into neuron-like cells and other cell types in retinoic acid", F. Cell Sci. 72:37-64;
25. International Application No. WO96/22362; published date, July 25, 1996;
26. International Application No. WO98/43679; published date, October 8, 1998;
27. International Application No. WO97/32033; published date, September 4, 1997;
28. Odorico, J.S., et al., Stem Cells, "Multilineage Differentiation from Human Embryonic Stem Cell Lines", 2001; 19:193-204;
29. Cruz, Y.P., et al., Animal Applications of Research in Mammalian Development, "Origin of Embryonic and Extraembryonic Cell Lineages in Mammalian Embryos," pp. 147-204;

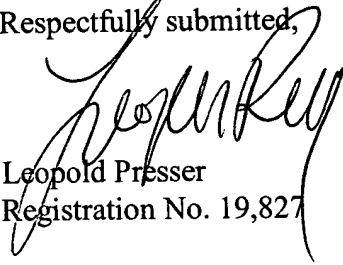
30. Thomson, J.A., et al., TIBTECH, "Human embryonic stem cell and embryonic germ cell lines," Feb. 2000, Vol. 18, pp. 53-57;
31. Nichols, J., et al., Development, "Establishment of germ-line-competent embryonic stem (ES) cells using differentiation inhibiting activity," 1990, 110, pp. 1341-1348;
32. Clark, A.J., et al., Transgenic Animals, "Germ line manipulation: applications in agriculture and biotechnology," pp. 249-250;
33. Piedrahita, J.A., et al., Theriogenology, "On the isolation of Embryonic Stem Cells: Comparative Behavior of Murine, Porcine and Ovine Embryos," Nov. 1990, Vol. 34, No. 5, pp. 879-901;
34. U.S. Patent 5,843,780 dated January 1996 to Thomson;
35. U.S. Patent 6,280,718 B1 dated November 1999 to Kaufman, et al.; and
36. U.S. Patent 6,200,806 B1 dated June 1998 to Thomson.

Pursuant to 37 C.F.R. §1.98(d), copies of the above-listed references are not provided, as these references were previously submitted to the Examiner in connection with the parent case, Serial Number 09/436,164, filed on November 9, 1999. Reference numbers 28-36 were cited by the Examiner in an Office Action dated October 25, 2001, therefore copies are not provided.

Consideration of this Information Disclosure Statement is respectfully requested. since the art provided may be material to the examination of the present application as filed under 37 C.F.R. §1.56.

Inasmuch as this Information Disclosure Statement is being submitted in accordance with the schedule set out in 37 C.F.R. §1.97(b), no petition, statement or fee is required.

Respectfully submitted,



Leopold Presser  
Registration No. 19,827

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Garden City, New York 11530  
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| Form PTO-1449<br>(REV. 7-80)   | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | Atty. Docket No.<br>13164A              | Serial No.<br>To Be Assigned |
| <b>LIST OF PRIOR ART<br/>CITED BY APPLICANT</b><br><br>(Use several sheets if necessary) |  | Applicant<br>Benjamin Reubinoff, et al. |                              |
|  |  | Filing Date<br>Herewith                 | Group<br>Unassigned          |



## U.S. PATENT DOCUMENTS

| EXAMINER<br>INITIAL* |    | DOCUMENT NUMBER | DATE   | NAME            | CLASS | SUBCLASS | FILING DATE<br>(if appropriate) |
|----------------------|----|-----------------|--------|-----------------|-------|----------|---------------------------------|
|                      | AA | 5,843,780       | 1/1996 | Thomson         |       |          |                                 |
|                      | AB | 6,280,718B1     | 1/1999 | Kaufman, et al. |       |          |                                 |
|                      | AC | 6,200,806B1     | 6/1998 | Thomson         |       |          |                                 |
|                      | AD |                 |        |                 |       |          |                                 |

## FOREIGN PATENT DOCUMENTS

|  |    | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION |    |
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|  | AK |                 |      |         |       |          |             |    |
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|  | AM |                 |      |         |       |          |             |    |
|  | AN |                 |      |         |       |          |             |    |

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

|  |    |   |
|--|----|---|
|  | AP | Pirity, M., et al., "Embryonic Stem Cells, Creating Transgenic Animals", <u>Methods in Cell Biology</u> , Academic Press, pages 279-293                           |
|  | AR | Shamblott, M. J., et al., (1998) "Derivation of pluripotent stem cells from cultured human primordial germ cells", <u>Proc. Natl. Acad. Sci.</u> , 95:13726-13731 |
|  | AS | Svensen, C. N., et al., (1999) "New prospects for human stem-cell therapy in the nervous system", <u>Trends in Neurosciences</u> , 22(8):357-364                  |
|  | AT | Thomson, J. A., et al., (1998) "Embryonic stem Cell Lines Derived From Human Blastocysts", <u>Science</u> , 282:1145-1147   |

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|  |    |                 |         |         |       |          | YES         | NO |
|  | AC | WO96/22362      | 7/25/96 | PCT     |       |          |             |    |
|  | AD | WO98/43679      | 10/8/98 | PCT     |       |          |             |    |
|  | AE | WO97/32033      | 9/4/97  | PCT     |       |          |             |    |

**OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)**

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|--|----|--|--|--|--|--|--|--|
|  | AF | Evans, M. J., et al., (1981) "Establishment in culture of pluripotential cells from mouse embryos", <u>Nature</u> 292:154-156;   |  |  |  |  |  |  |
|  | AG | Martin, G. R., (1981) "Isolation of a pluripotent cell line from early mouse embryos cultured in medium conditioned by teratocarcinoma stem cells", <u>Proc. Natl. Acad. Sci USA</u> 78(12):7634-7638; |  |  |  |  |  |  |
|  | AH | Andrews, P. W., et al. (1984) "Pluripotent Embryonal Carcinoma Clones Derived from the Human Teratocarcinoma Cell Line Tera-2", <u>Lab. Invest.</u> 50(2):147-162;                                     |  |  |  |  |  |  |
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